

What is claimed is:

1. A thermal development apparatus for developing a film for thermal development, comprising:

a heating section, which has at least a partially cylindrical surface on an outer peripheral portion of the heating section, for transporting and heating the film being brought into contact with the partially cylindrical surface;

a plurality of pressing rollers provided in parallel with each other along a transportation path of the film, which is transported along the partially cylindrical surface of the heating section, for pressing the film onto the partially cylindrical surface of the heating section;

wherein, when "R" denotes the curvature radius of the partially cylindrical surface, "r" denotes the radius of each of the plurality of pressing rollers, " α (degrees)" denotes the angle between two neighboring axial centers of the plurality of pressing rollers with respect to the center of the curvature radius of the partially cylindrical surface, and "P" denotes the pitch with which the plurality of pressing rollers are provided; the following expressions are satisfied;

$$P = 2\pi R \alpha / 360,$$

$$P > 2r$$

wherein, when "l" denotes the shortest distance between the leading or trailing edge of the effective image area recorded on the film and the leading or the trailing edge of the film; the relationship of $l > P$ is satisfied.

2. The thermal development apparatus of claim 1, wherein the surface material of the plurality of pressing rollers is comprised of rubber or a rubber-like material.

3. The thermal development apparatus of claim 1, wherein hardness (JIS-A) of the surface material of the plurality of pressing rollers is in the range of 20 to 60 degrees. deforms to suppress the flip-flops at the leading edge and trailing edge portion of the film.

4. An image recording apparatus comprising:
a laser scanning apparatus for forming a latent image on a film for thermal development by scanning the film with a laser beam; and
a thermal development apparatus for developing the latent image formed on the film by heating the film;

wherein in the course of forming the latent image, the laser scanning apparatus forms a compensation standard area at a prescribed position on the film by irradiating the film with a prescribed amount of laser irradiation,

wherein the thermal developing apparatus comprises:

a heating section, which has at least a partially cylindrical surface on an outer peripheral portion of the heating section, for transporting and heating the film being brought into contact with the partially cylindrical surface;

a plurality of pressing rollers provided in parallel with each other along a transportation path of the film, which is transported along the partially cylindrical surface of the heating section, for pressing the film onto the partially cylindrical surface of the heating section;

wherein, when "R" denotes the curvature radius of the partially cylindrical surface, "r" denotes the radius of each of the plurality of pressing rollers, " α (degrees)" denotes the angle between two neighboring axial centers of the plurality of pressing rollers with respect to the center of the curvature radius of the partially cylindrical surface, and "P" denotes the pitch with which the plurality of pressing rollers are provided; the following expressions are satisfied;

$$P = 2\pi R \alpha / 360,$$

$$P > 2r$$

wherein, when "l" denotes the shortest distance between the leading or trailing edge of the effective image area recorded on the film and the leading or the trailing edge of the film; the relationship of $l > P$ is satisfied.

5. The image recording apparatus of claim 4, further comprising a density measurement device for measuring the density at the compensation standard area, and the image recording apparatus compensates the amount of laser irradiation based on the difference between the measured density by the density measurement device and the target density of the compensation standard area.

6. The image recording apparatus of claim 4, wherein the surface material of the plurality of pressing rollers is comprised of rubber or a rubber-like material.

7. The image recording apparatus of claim 4, wherein hardness (JIS-A) of the surface material of the plurality of pressing rollers is in the range of 20 to 60 degrees.

8. The image recording apparatus of claim 5, wherein the surface material of the plurality of pressing rollers is comprised of rubber or a rubber-like material.

9. The image recording apparatus of claim 5, wherein hardness (JIS-A) of the surface material of the plurality of pressing rollers is in the range of 20 to 60 degrees.